Rinnai

Installation guide

Arriva 752

Models: RHFE752ETRN/RHFE752ETRL

Important:

Appliance must be installed with a Rinnai approved flue system.

This appliance shall be installed in accordance with:

- Manufacturer's installation instructions
- AS/NZS 5601
- Local regulations and municipal building codes

Installation, servicing and repair shall be carried out only by authorised personnel.

Please retain this manual for future reference.

Warning
Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life.

For more information about buying, living and servicing of Rinnai appliances call: 0800 RINNAI (0800 746 624)

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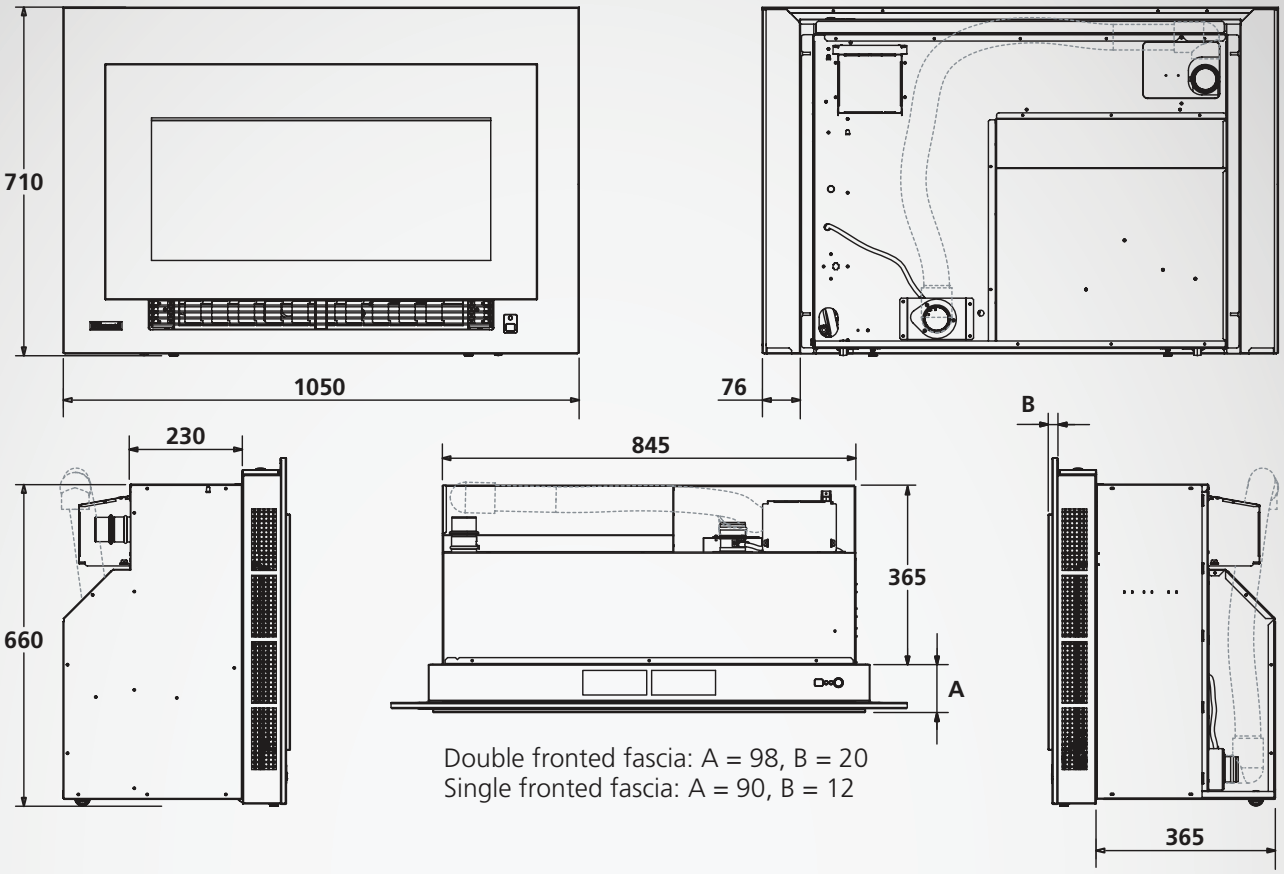
Specification



Double fronted fascia: A = 98, B = 20
Single fronted fascia: A = 90, B = 12

Arriva 752

Specification summary

Input	= 8-31.5 MJ/h
Output	= 1.8-7.0* kW
Efficiency	= 79-89%*
Heating area	= 70-95 m²**
Gas type	= NG or LPG

* Will vary according to gas type and flue configuration.

** Will vary depending on geographical location in NZ.

Inbuilt convector space heater with forced convection and power flue system.

Burners
Ember bed and flame burner.

Combustion system
Yellow flame and bunsen multi port burner.

Data plate
Inside appliance, upper right hand side, behind convection fan.

Fan
3-speed high/medium/low/off radial blower.

Flue
Balanced flue, inner - 50 mm, outer 80 mm.

Rinnai warranty conditions will be voided if non Rinnai flue components are fitted. This heater is only certified for use with approved Rinnai Arriva flueing components.

Gas connection
½ " BSP male flare to barrel union (lower right hand side of appliance).

Gas control
Electronic control.

Ignition
Continuous spark electronic ignition.

Noise level
33-41 dB(A), fan low to high.

Power consumption
High = 90 W, low 60 W, standby 10 W

Standard electrical connection is to the right hand side of the appliance.

Safety devices
Flame failure sensing system, explosion relief, overheat safety switch, air temperature sensor, thermal fuse, overcurrent fuse, and spark detector.

Temperature control
Thermostatic, temperature control 16-26 °C.

Weight
70 kg

Clearances

The clearances listed below are minimum clearances unless otherwise stated.

Clearances around the heater

The appliance must not be installed where curtains or other combustible materials (coffee tables, couches etc.) could come into contact with the heater. In some cases curtains may need restraining.

Floor protection

Heat emanating from this fire may over time affect the appearance of some materials used for flooring, such as, carpet, vinyl, cork or timber. This may be amplified if the air contains cooking vapours or cigarette smoke. To avoid this occurring, it is recommended that a mat be placed in front of the appliance.

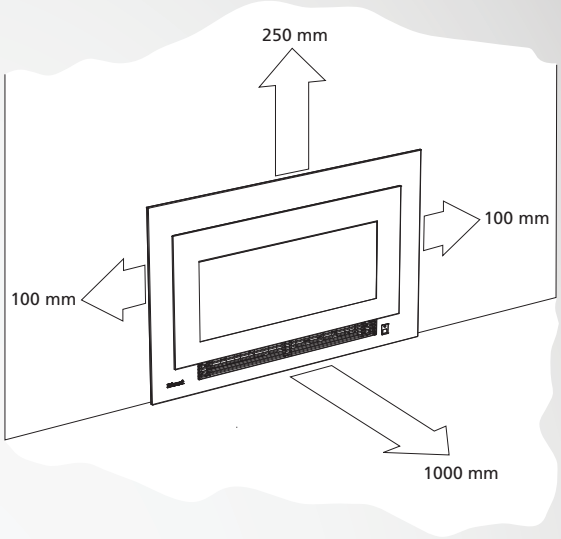
Mantels and surrounds

Mantels and surrounds are allowed providing they conform to the minimum clearances shown. These clearances are important as they:

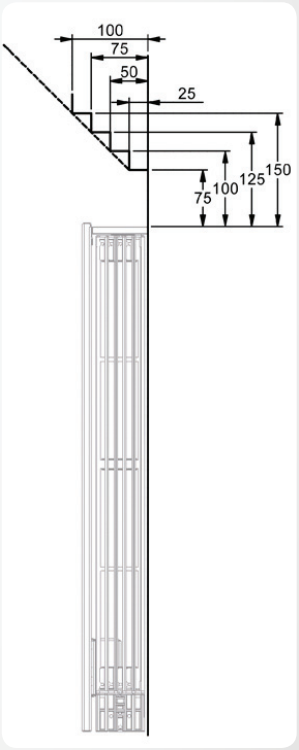
- allow heat to escape in the event of a power failure during operation
- allow optimum performance of the heater (room air return)
- allow access to the side mesh filters

<u>Clearance calculation example</u>

At a 75 mm vertical clearance, the maximum mantel depth is 25 mm. For every 25 mm of added mantel depth, there must be an additional 25 mm of vertical clearance. For example a mantel depth of 100 mm requires a vertical clearance of 150 mm



Clearances required around the heater when operating



Arriva 752 mantel clearances

Arriva 752 surround clearances

Location

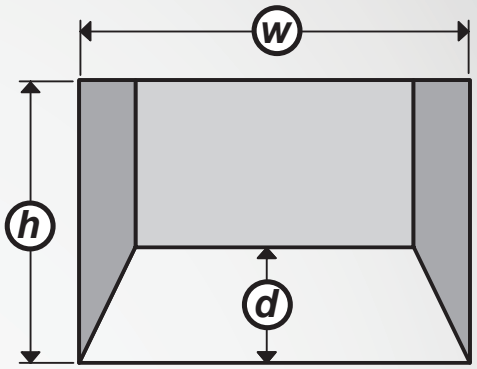
The main points governing location are flueing and warm air distribution. The Rinnai Arriva has a cool outer casing, it can be installed into an existing masonry, or decorative fireplace.

Enclosure dimensions

The heater must be positioned on a flat level surface that allows free movement of the appliance. A pair of wheels located at the rear of the heater allows the unit to slide in and out of the enclosure for commissioning and maintenance.

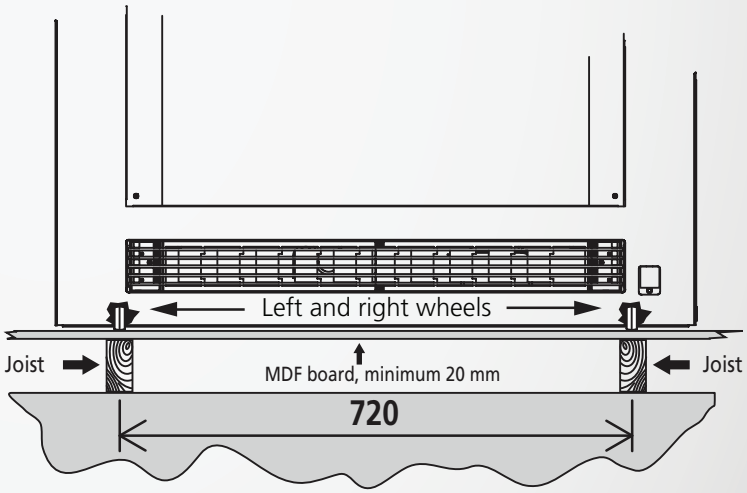
In a masonry fireplace use a slurry of sand and cement to level the base as required.

In a decorative fireplace, when the appliance is elevated from the ground, construct a base using a board with supporting joists as pictured.



Enclosure dimensions	
W-width	845-860 mm
H-height	660-665 mm
D-depth	380 mm direct flue 475 mm extended flue 500 mm underfloor flue

All dimensions provided are critical to the installation of this appliance and must be strictly adhered to.



Elevated installation in a decorative fireplace

Gas connection

Gas pipe sizing must consider the gas input to this appliance, as well as other gas appliances in the premises. The gas supply termination is inside the heater, and enters from the rear right hand side of the appliance.

To ensure correct positioning terminate the gas supply so it is 80 mm in from the front face of the enclosure opening.

Purging gas supply

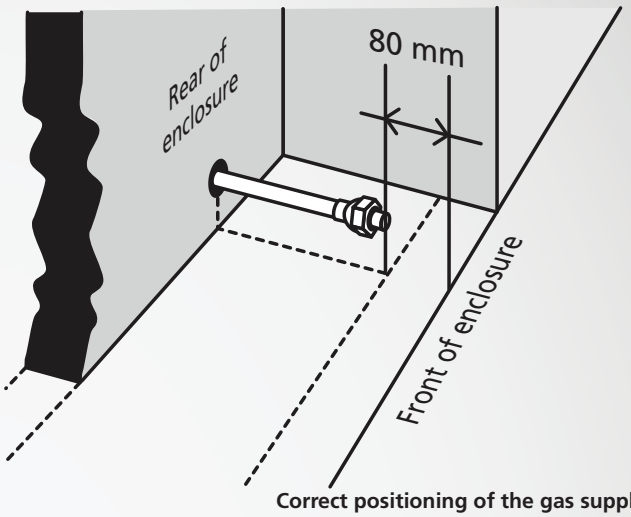
Foreign materials and debris such as swarf, filings etc. must be purged from the gas supply. Failure to do so may cause damage to the control valve causing it to malfunction.

Direct flue wall penetration requirements

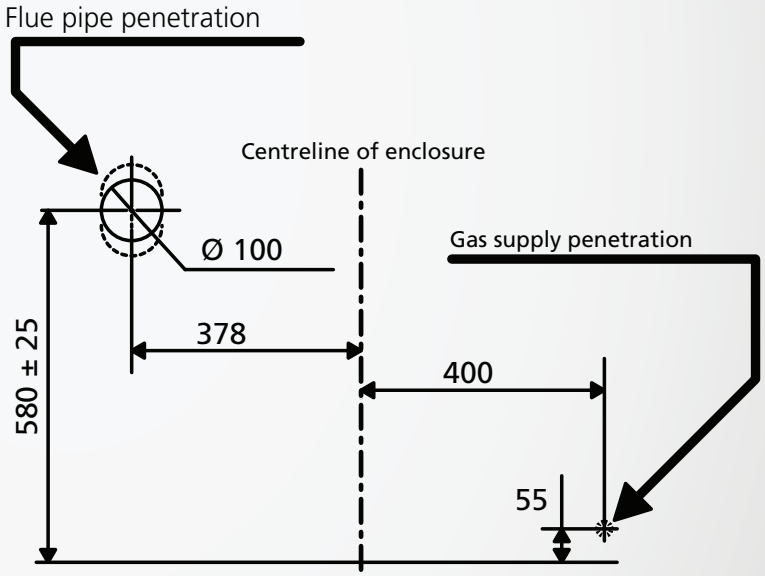
Use the guide pictured to mark the penetration points for the gas supply and flue transition locations. Consideration must be given to the position of any studs, noggins or other components of the wall structure on both sides of the wall.

Mark these measurements accurately as this is critical to a successful installation.

The penetration for the flue transition only needs to be made for direct flue installations, where the terminal is to be terminated directly to the rear of the appliance.



Correct positioning of the gas supply

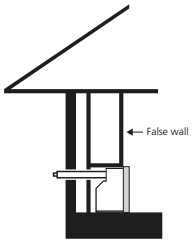


All dimensions are in mm.

Direct flue wall penetration points

Flueing options

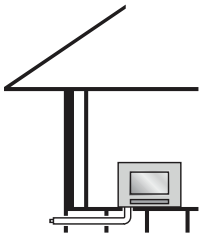
Rear external wall



Flue components:
- Direct A flue (R2731), or
- Direct B flue (R2732), or
- Direct flue (ASPDFK)

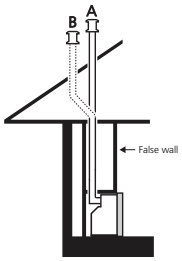
This flue configuration could be up to 8 m long (no bends).

Down and out



Flue components:
- Adaption flue (ASPKIT03)
- Coaxial pipe (ESPIPE900)
- Bend 2 x 45° (ESBEND x 1)
- Wall terminal (ESWTKIT)

Vertical



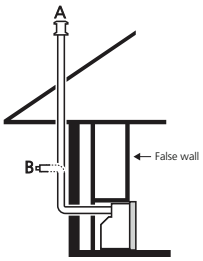
A flue components:
- Adaption flue (ASPKIT03)
- Coaxial pipe (ESPIPE900)
- Roof cowl (ESROOFCOWL)

A flue configuration could have a flue length of 7 m and contain one 90° bend—the 90° bend would the flue transition (ASPKIT03).

B flue components:
- Adaption flue kit (ASPKIT03)
- Coaxial pipe (ESPIPE900)
- Bend 2 x 45° (ESBEND x 1)
- Roof cowl (ESROOFCOWL)

B flue configuration could have a flue length of 6 m and contain two bends—the first 90° bend would be the flue transition (ASPKIT03), and the second 90° bend would be two 45° bends (ESBEND).

Through wall



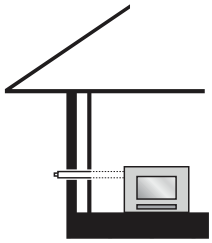
A flue components:
- Direct flue (ASPDFK)
- Coaxial pipe (ESPIPE900)
- Bend 1 x 90° (ESBEND x 1)
- Condensate trap (ESCONDK)
- Roof cowl (ESROOFCOWL)

A flue configuration could have a flue length of 7 m and contain one 90° bend—the 90° bend would the 90° bend (ESBEND).

B flue components:
- Direct flue (ASPDFK)
- Coaxial pipe (ESPIPE900)
- Bends 2 x 90° (ESBEND x 2)
- Condensate trap (ESCONDK)
- Roof cowl (ESROOFCOWL)

B flue configuration could have a flue length of 6 m and contain two 90° bends—the bends would be the two 90° bends (ESBEND).

Sideways through wall



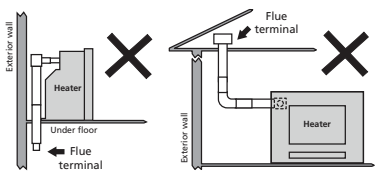
Flue components:
- Adaption flue (ASPKIT03)
- Coaxial pipe (ESPIPE900)
- Wall terminal (ESWTKIT)

Flueing notes

For all installations an Arriva flue system MUST BE used. Detailed flue instructions are provided with Arriva flue kits.

Termination point

Flue is not to terminate under floors or in a roof space.



Condensate

A condensate trap is required for ALL vertical flue installations to ensure condensate generated during combustion is trapped and prevented from entering the chamber of the heater.

For horizontal, and down and out installations, there must be a continuous fall of at least 2°. This equates to approximately 20 mm per metre to the termination point to drain the condensate. For direct flueing, direct flue kits A and B have an inbuilt 2° fall.

Masonry

The Arriva must not be flued into natural draft cavities.

Down rating the appliance

For all Arriva flueing EXCEPT direct flueing, the appliance must be down rated (ensures optimum performance of the fan) as per the instructions on the commissioning sheet.

Maximum flue length and number of bends

- Max. flue length - 8 m
- Max. number of bends - three

One 90° bend equals 1 m. For every 90° bend the overall length must be reduced by 1 m. For example if an installation has three 90° bends, the maximum flue length can be 5 m. The flue transition for all flueing installations, excluding direct horizontal flueing, is counted a 90° bend.

Flueing guidelines

Clearance to combustibles

- Flue transition (p. 12) - 5 mm
- Elbow component of adaption flue kit (ASPKIT03) - 25 mm

All other Arriva flue components have zero clearance.

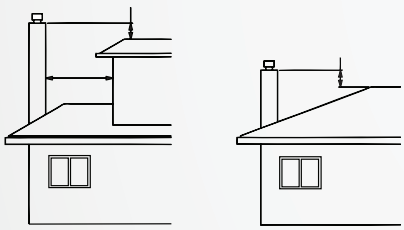
Flashings

Flashings to top of chimney structure do not form part of the flue kit and must be specified.

Flue cowl clearance

To ensure products of combustion are cleared, adequate clearance for the building is required.

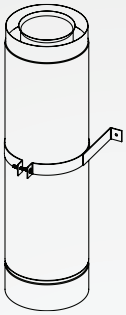
The flue cowl should have a 500 mm clearance from any part of the building. This also applies to steeped and pitched roofs which should be clear of the ridge line as shown. Lesser clearances may provide perfectly adequate flue systems depending on the installation. Minimum clearances are shown in AS/NZS 5601.1, or NZS 5261*.



Flue terminal locations

Must be compliant with 'Clearances Required for Flue Terminals' from AS/NZS 5601.1, or NZS 5261* 2003. Flue is not to terminate under floors or in a roof space.

Flue support



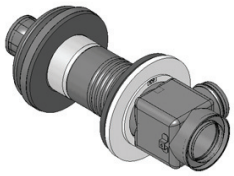
The weight of the flue system should not be supported by the appliance—it should be self-supporting. Supporting the flue is usually completed during the framing stage with flue supports or straps within the cavity.

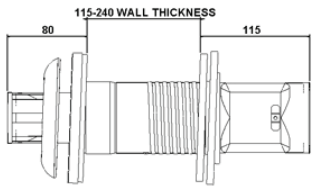
Shared flues

Gas appliances must not be connected to a chimney or flue serving a separate fuel burning appliance.

* NZS 5261 applicable until December 31st, 2012.

Arriva flue components



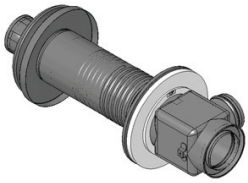


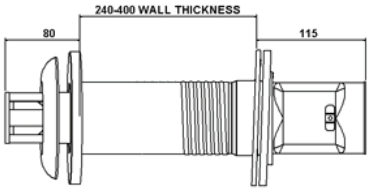
Direct A flue kit

Code = R2731

For use in walls 115-240 mm thick—typically weatherboard construction (can be cut to size). This is a complete kit, no other components are required.

- Stainless steel
- Inbuilt 2° fall to drain condensate



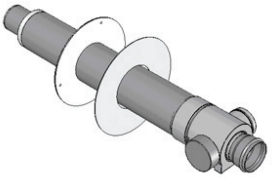


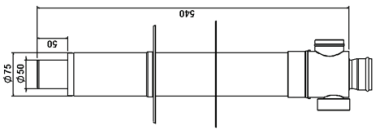
Direct B flue kit

Code = R2732

For use in walls 240-400 mm thick—typically block construction (can be cut to size). This is a complete kit, no other components required.

- Stainless steel
- Inbuilt 2° fall to drain condensate

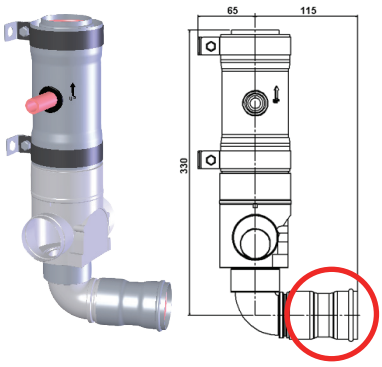




Direct flue kit

Code = ASPDFK

For use in walls greater than 400 mm (can be cut to size). Can be used in combination with ESPIPE900 for longer flueing. Kit includes flue slide stopper (part 4822). Flue terminal section is reusable when making flue longer. Flue is aluminium, collars are PVC, and spacers are PBT plastic.

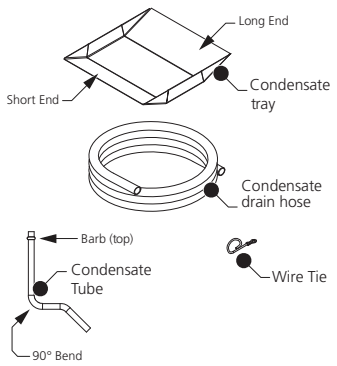


Arriva adaption flue kit

Code = ASPKIT03

Used for all flueing configurations EXCEPT standard direct flueing.

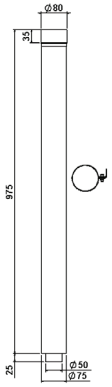
Elbow section of this component (circled) requires a 25 mm clearance from combustibles, the rest is zero clearance. This kit also contains a sub-kit called the condensate drain kit (shown in next panel), and flue slide stopper (part 4822).



Condensate drain kit

Code = R1970

The condensate drain kit is provided with ASPKIT03. It is used for internal wall flue installations, or other vertical flue installations that will require draining of condensate back into the heater.

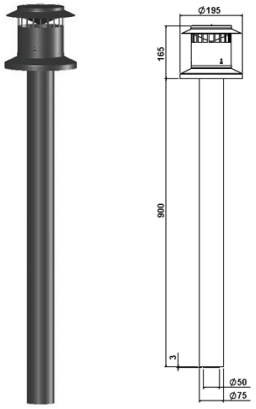


Coaxial flue pipe 900 mm

Code = ESPIPE900

Extension pipe (960 mm installed) used to construct horizontal, vertical, and downwards flueing. Can be cut to size. Inner is aluminium, and outer is PVC plastic. Comes with one wall bracket.

- O-ring for ESPIPE (4350)
- Spacer for ESPIPE (4351)

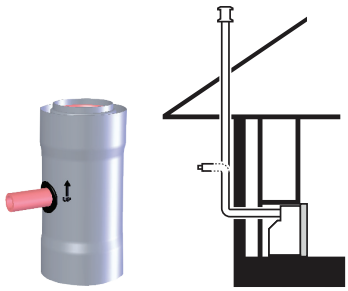


Vertical terminal

Code = ESROOFCOWL

Roof cowl and connecting pipe (960 mm installed) for termination of flue—can be cut to size.

Powder coated (black) galvanised steel construction.

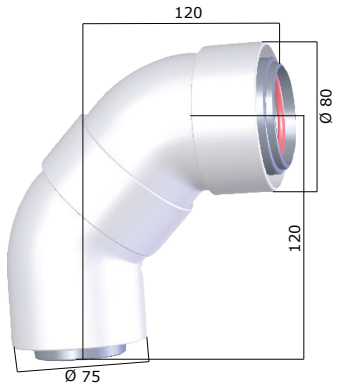


Condensate trap

Code = ESCONDK

For the small number of vertical through the wall flue installations, where the Arriva is installed against a solid brick wall, or where the direct flue terminal cannot be used.

Used in conjunction with ASPDFK, ESBEND, ESPIPE900, and ESROOFCOWL.

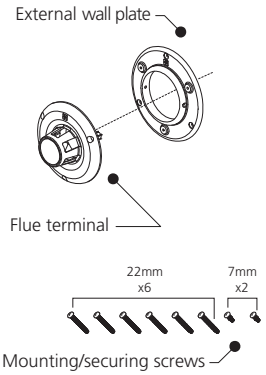


45° flue bends x 2

Code = ESBEND

Two 45° bends used to facilitate between horizontal, vertical, and downwards flueing. Can be used separately, or together as one 90° bend.

Two spacers included.



Wall terminal kit

Code = ESWTERM

Used to terminate the flue pipe (ESPIPE900) in horizontal flue installations when used in conjunction with ASPKIT03.

Contains:

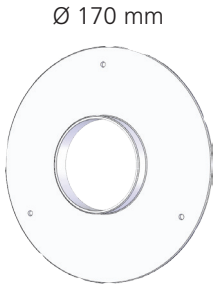
- External wall plate (PVC)
- Pipe spacer (PBT plastic)
- End cap (PBT plastic)

Flue guard

Code = R1370

Protection against hot flue gases when the flue terminates low to the ground.

Colour - warm white.



Universal wall plate

Code = ESPLATE

Used if an extra wall cover plate is required to tidy any installation work through the wall, ceiling, or floor.

Flue transition

The flue transition provides a connection between the flue system and the heater's flue spigot and air intake. For all flueing installations, except horizontal direct flueing, the flue transition is counted as a 90 ° bend.

The flue transition requires a 5 mm gap from combustibles. This clearance is provided automatically when the supplied standoff brackets are used. All other flue components, except the elbow section of the adaption flue kit are designed for zero clearance and can be placed hard against timber or plasterboard.

In all cases when positioned correctly the flue transition connection must protrude 110 mm from the rear of the enclosure.

Horizontal direct flue transition

When installed as a horizontal direct flue, the flue transition is pushed hard against the internal wall plate, which is pushed hard against the rear wall of the enclosure as shown.

Vertical flue transition

When installed as a vertical direct flue, the flue transition is fastened to the rear wall by standoff brackets supplied.

Elbow component of the adaption flue kit requires a 25 mm clearance to combustibles.

Appliance needs to be down rated—refer data plate.

Offset flue transition

When installed as a vertical or horizontal offset flue, the flue transition is fastened to the rear of the wall by standoff brackets supplied.

Appliance needs to be down rated—refer data plate.

Down and out flue transition

When installed as a down and out flue, the flue transition is fastened to the rear wall by standoff brackets supplied.

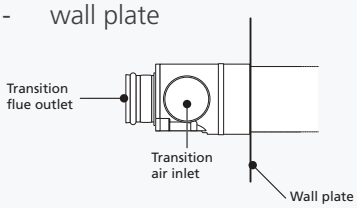
The enclosure depth for a down and out installation is 500 mm to allow the flue pipe to clear the base of the appliance.

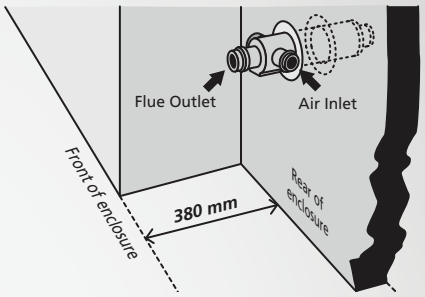
Appliance needs to be down rated—refer data plate.

Flue transition components

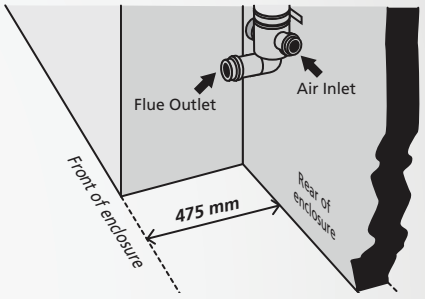
The flue transition is comprised of:

- transition flue outlet
- transition air inlet
- wall plate

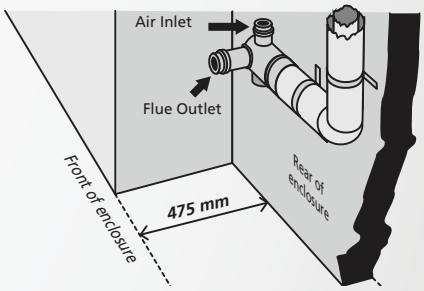




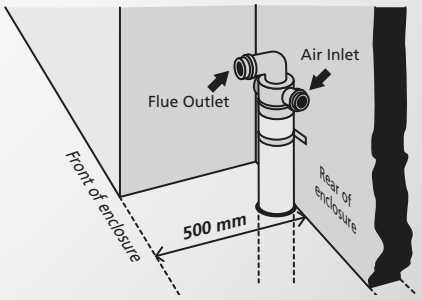
Horizontal direct flue transition



Vertical flue transition



Offset flue transition



Down and out flue transition

Arriva 752 installation

WARNING Isolate the electrical supply before removing any panels.

Installation overview

1. Connect to gas pipe
2. Open flue & air hose access
3. Connect flue pipe
4. Install heater engine
5. Secure heater
6. Check all connections

1. Connect to gas pipe

a. Remove the right hand side access panel by removing the four retaining screws.

b. Extend flexible gas connection through the gas fitting access point to the outside of the heater body.

c. Position the appliance in front of the enclosure so the end of the gas pipe aligns with the gas fitting access point.

d. Securely connect flexible gas connection to the gas pipe, testing all connections for gas leaks.

e. Replace right hand panel and secure screws in place.

2. Open flue & air hose access

a. Unscrew the flue access panel.

b. Remove the clamp that secures the telescopic vertical flue pipe to the telescopic horizontal flue pipe.

c. Clamp the horizontal flue pipe to the flue transition box using either the flue retainer bracket (supplied in the plastic bag with the remote control), or the flue slide stopper (provided with the ASPDFK and ASPKIT03 flue kits). The clamping component will differ depending on the flue configuration

d. Fasten air inlet hose to transition box using cable tie supplied in accessory pack with the remote.

e. Push appliance into position. Adjust horizontal and vertical telescopic flue pipe, and connect using clamp.

f. Replace flue access panel.

3. Connect flue pipe

Connect flue pipe to flue and hold in place using appropriate clamp. Failure to secure the flue system using the supplied clamps may result in a dangerous situation.

4. Install heater engine

Carefully move the heater into the enclosure cavity ensuring the gas pipe and flue transition are aligned with their access openings.

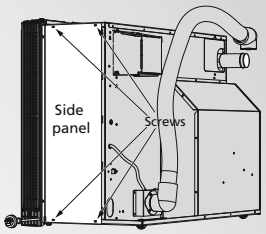
As the appliance is pushed into place ensure the flexible gas connection coils freely inside the appliance, and that the gas pipe penetrates through the centre of the gas access point.

5. Secure heater

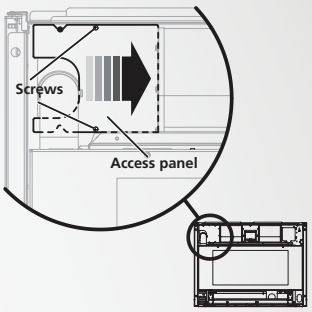
Secure the heater, using appropriate fixings, through the four appliance mounting points—two upper and two lower (on each side of the appliance).

6. Check all connections

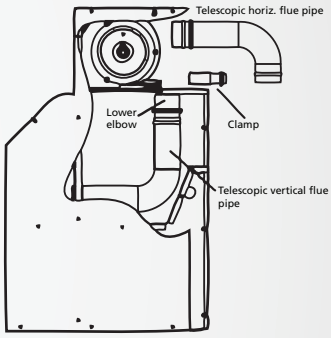
Check all connections are properly engaged and are inserted beyond the O-ring seal.



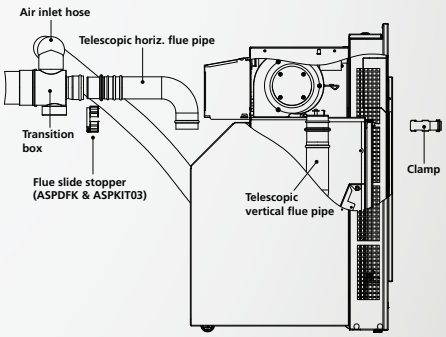
1a: Remove right hand access panel



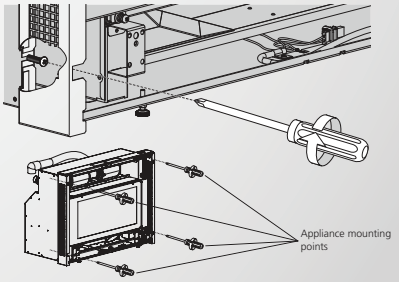
2a: Unscrew flue access panel



2b: Remove clamp from flue pipe



2c/d: Fasten horiz. flue pipe and air inlet hose



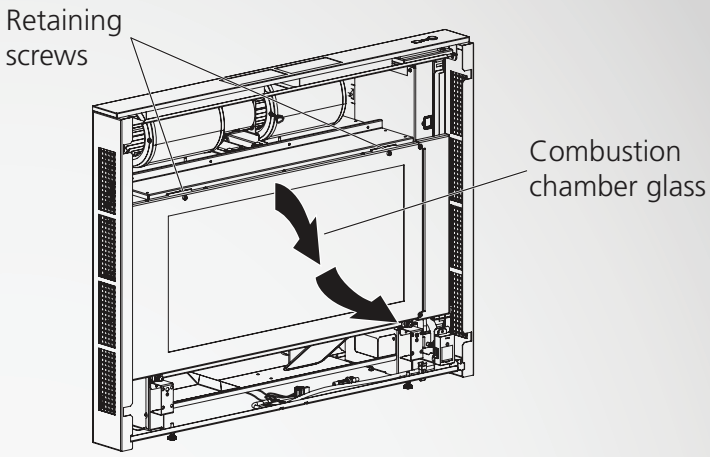
5: Secure heater

Installing the burn media

1. Remove combustion chamber glass

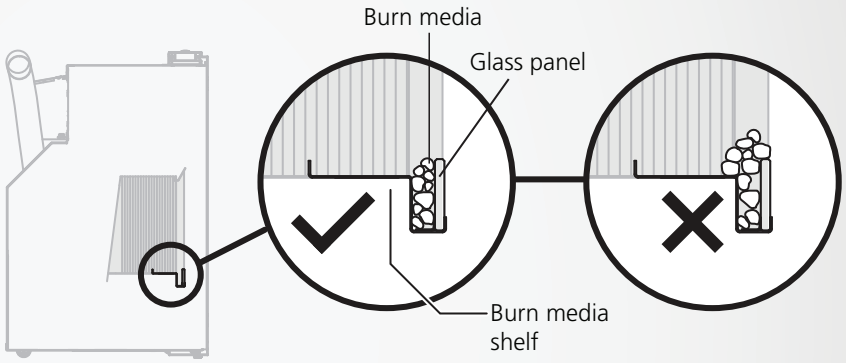
Before the burn media can be installed the combustion chamber glass panel needs to be removed.

- Remove the two retaining screws that secure the combustion chamber glass panel to the heater engine.
- Rotate and lift the combustion chamber glass clear of the combustion chamber and place in a safe location until required.



2. Place burn media

- Place burn media in the gap between the glass retaining wall and the stainless steel burn media shelf until it has been completely filled.
- Place remaining burn media evenly onto the stainless steel burn media shelf.

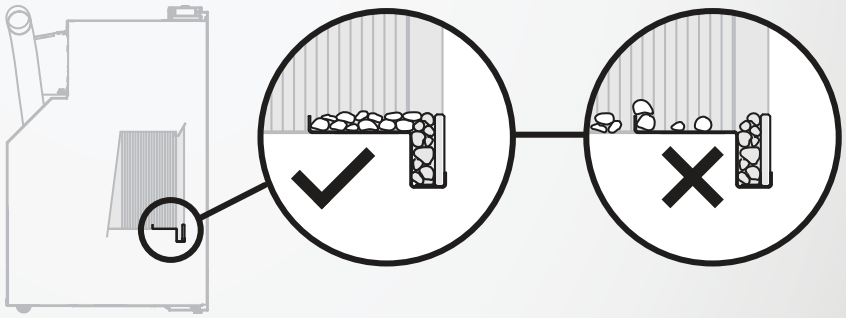


Placing burn media in the gap

Important

DO NOT place the burn media on top of or above the level of the glass retaining wall, or place onto the burner plates.

Place burn media evenly and AVOID any large gaps between the stones or pebbles.



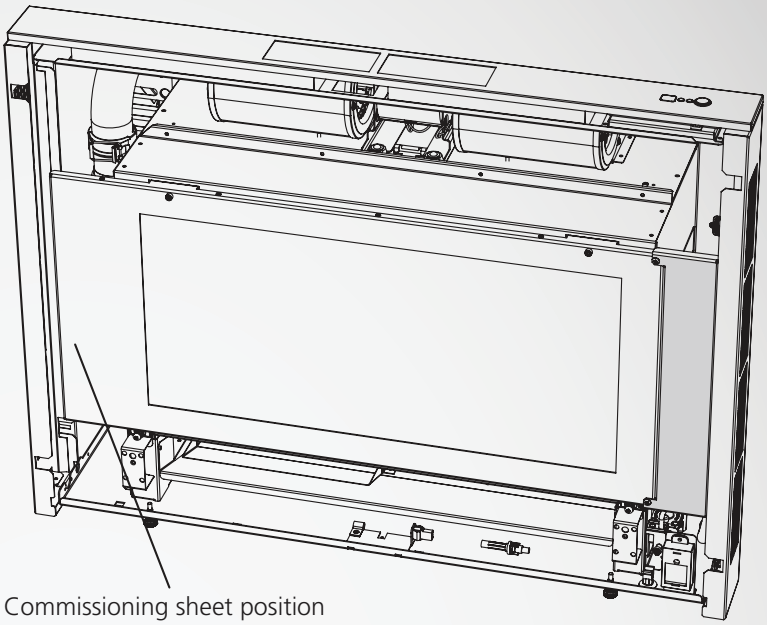
Placing burn media onto the burn media shelf

Commissioning

The gas pressures of the appliance are factory preset for direct flue installations and will normally not require adjustment.

For all Arriva flueing EXCEPT direct flueing, the appliance must be down rated as per the instructions on the commissioning sheet. The commissioning sheet is located in a plastic pouch behind the removable access panel on the right edge of the combustion chamber glass panel.

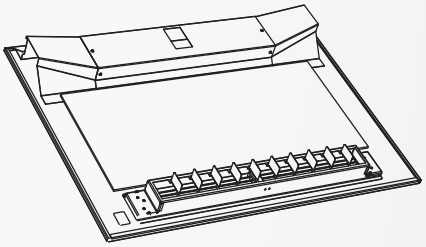
Follow the commissioning instructions to complete the gas pressure adjustments, and ensure correct operation of the appliance.



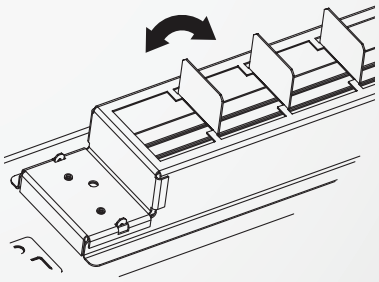
Commissioning sheet position

Setting the air guide vanes

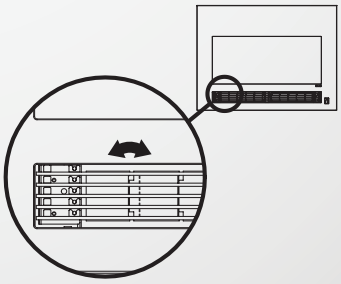
The air guide vanes allow the installer to set and adjust the horizontal air flow distribution of the appliance. These are not to be confused with the horizontal louvres that determine the direction of the vertical flow—these are fixed and cannot be adjusted.



The air guide vanes can be adjusted by carefully bending to the left or right using a screwdriver.



- Do not adjust the vanes more than five times as this may cause the metal to fracture and/or break
- Do not attempt to adjust the air flow direction while the appliance is operating or still hot as this could result in a burn injury



Panel installation

The fascia of the Arriva 752 is fully assembled and packaged in a separate carton. Always inspect the glass for any chip or obvious sign of damage before installation. Care is required when handling the front fascia—no sudden impact or excess force should be applied.

Glass panels

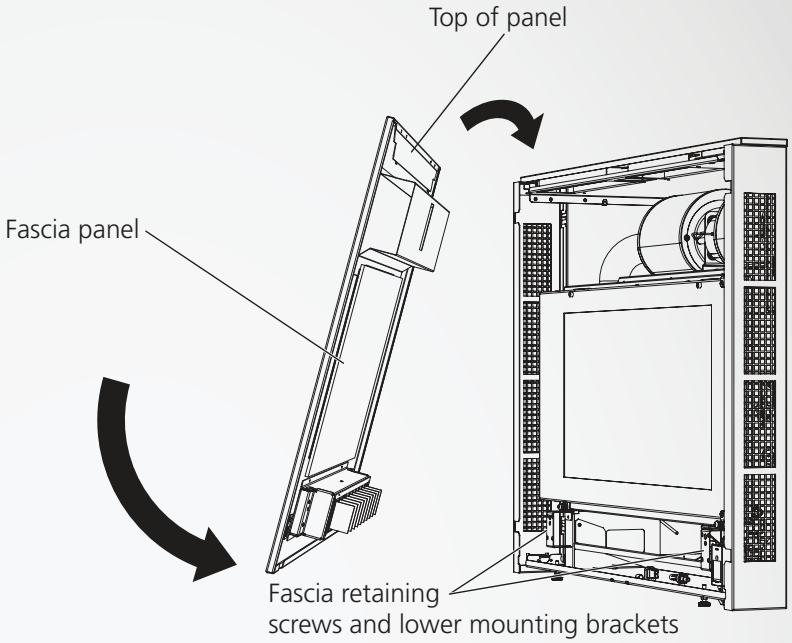
Always wear gloves and safety glasses when handling glass.

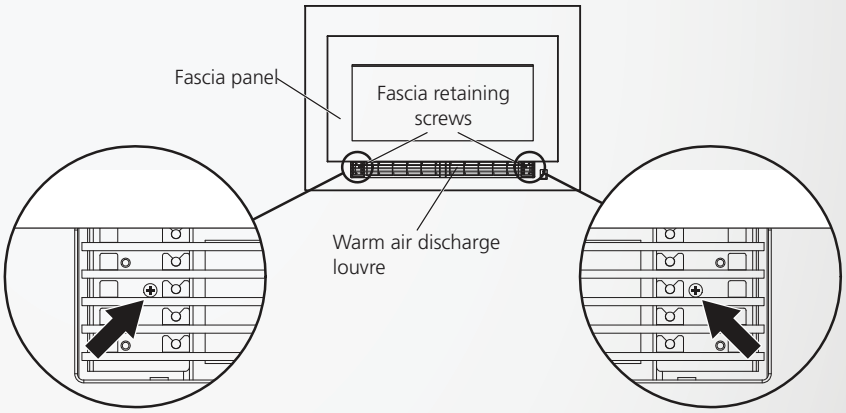
Installing the front panel

Remove and put aside the two fascia retaining screws from the lower fascia mounting brackets of the heater engine.

Mount the fascia by hooking the top of the fascia to the body and rotating the bottom in towards the engine body.

Using the fascia retaining screws, secure the fascia to the heater engine through the front of the warm air discharge louvre.





Flame pattern

It may take approximately two hours of operation for the logs to achieve their full flame pattern and glow. During the initial burning in period, some smoke and smell may be experienced. The appliance should run on the high setting in a well ventilated room until these dissipate. It is important to check the flame pattern during this time.

Abnormal flame pattern

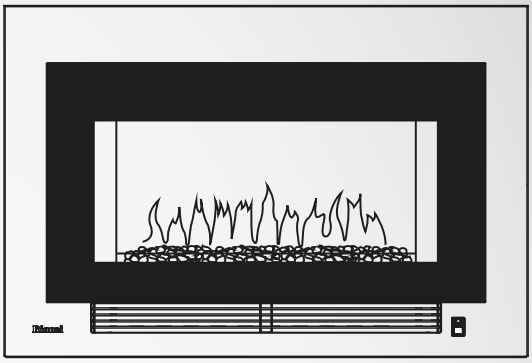
Abnormal flame performance and/or pattern can indicate a problem with your fire, such as blocked gas injectors, or that the burn media has shifted from when the fire was first installed. There are some warning signs that could indicate a problem.

- Unusual smell from the appliance
- Continued difficulty or delay in establishing a flame
- Flame appears either very short or very long
- Flame only burns part way across the burner
- Severe soot building up on the inside of the glass door

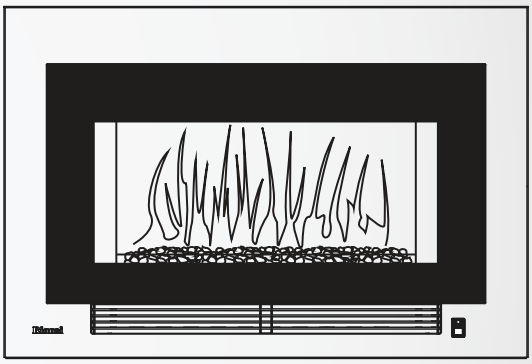
Important

It is the responsibility of the installer to check that under normal conditions of the appliance, all flue gases are exhausted to the outside atmosphere, and that there is no spillage of combustion gases into the room.

If the appliance cannot be made to perform correctly please contact Rinnai.



Normal flame pattern



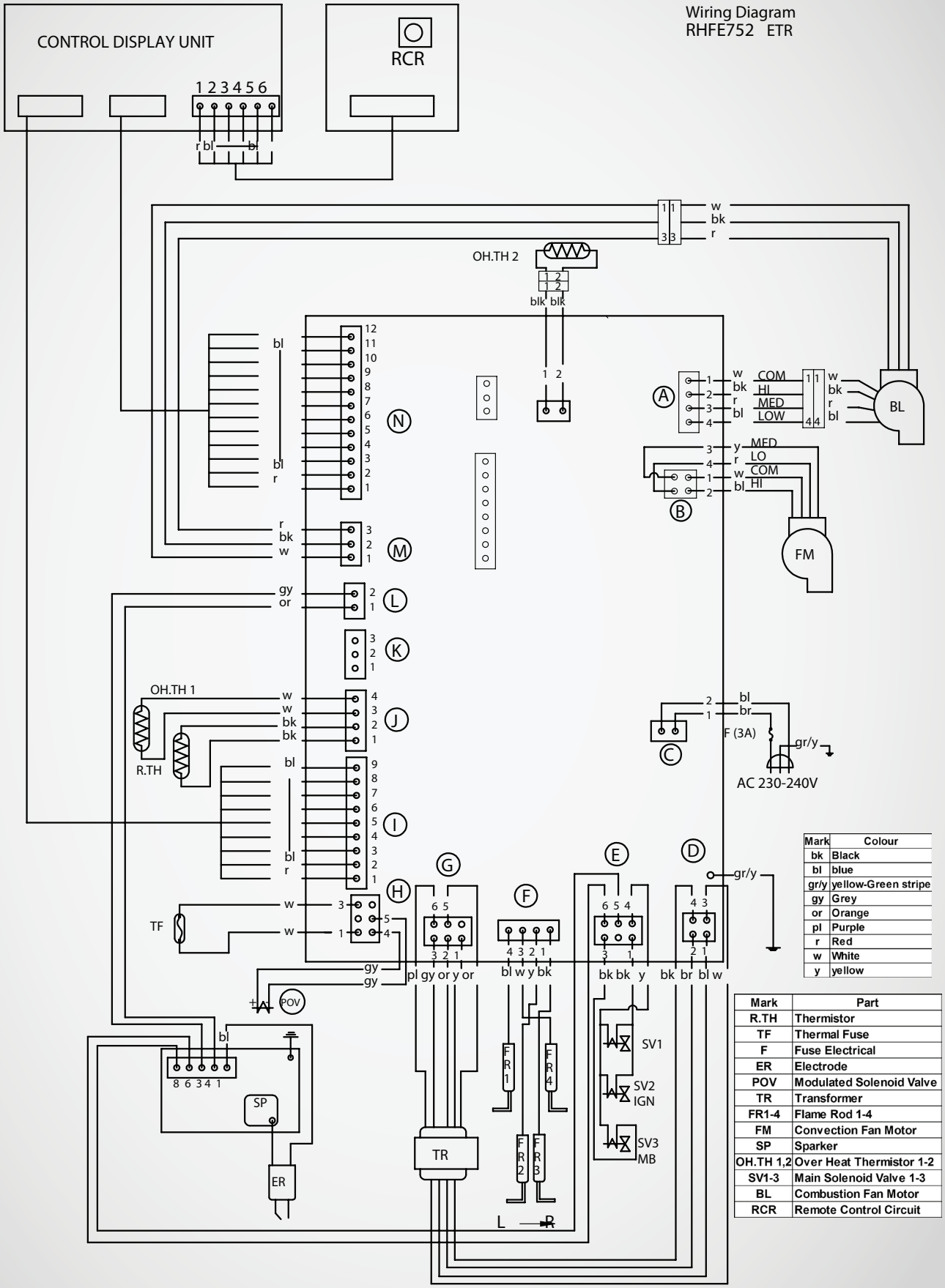
Abnormal flame pattern

Installation checklist

Complete the installation checklist in the customer operation guide, and make sure you leave the guide with the customer. Explain to the customer about the use and care of the unit, and ensure they understand the instructions and operation of the appliance.

Wiring diagram (12258-A)

Part of commissioning sheet



Mark	Colour
bk	Black
bl	blue
gr/y	yellow-Green stripe
gy	Grey
or	Orange
pl	Purple
r	Red
w	White
y	yellow

Mark	Part
R.TH	Thermistor
TF	Thermal Fuse
F	Fuse Electrical
ER	Electrode
POV	Modulated Solenoid Valve
TR	Transformer
FR1-4	Flame Rod 1-4
FM	Convection Fan Motor
SP	Sparker
OH.TH 1,2	Over Heat Thermistor 1-2
SV1-3	Main Solenoid Valve 1-3
BL	Combustion Fan Motor
RCR	Remote Control Circuit

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https://www.youtube.com/rinnainz